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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,084	10/10/2003	Adrian Smith	71493-1196 /aba	9193

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EXAMINER	
PEREZ, JULIO R	
ART UNIT	**PAPER NUMBER**
2617	

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	10/682,084	SMITH ET AL.	
	Examiner	Art Unit	
	Julio R. Perez	2617	

-- The MAILING DATE of this communication appears on th cover she t with th correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Response to Arguments

3. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

4. Claim 1 is objected to because of the following informalities: on line 7, it is unclear whether "a message" is the same message as recited on line 3 or a second different message; and on line 9, it is unclear whether "a message" is the same message as recited on line 3 or line 7 or a third different message. Appropriate correction is required.

5. Claim 14 is objected to because of the following informalities: on lines 4 and 5, "such communications" should be "said wireless communications". Appropriate correction is required.

6. Claim 15 is objected to because of the following informalities: on lines 2-3 and 6, "such communications" should be "said wireless communications"; and on line 4, "the network" should be "the wireless network". Appropriate correction is required.

7. Claim 21 is objected to because of the following informalities: on line 6, it is unclear whether "such detection" refers to the detection on line 4 or the detection on line

5; "such detection" after "to" and "such detection" after "of", on line 6, it is unclear whether "a message" is the same message as recited on line 3 or a second or third different message; and on line 11, "such communications" after "for" and "of", respectively, should be "said wireless communications". Appropriate correction is required.

8. Claim 22 is objected to because of the following informalities: on line 2, a given frequency" should be "the given frequency; on lines 2-3, "such communications" should be "said wireless communications"; on line 4, "its list" should be "the list of preferred frequencies"; and on line 4, "the network" should be "the said network". Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 8-9, 14-16, 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Tiedemann et al., Patent Number 5,999,816 (hereinafter Tiedemann).

Regarding claim 1, Tiedemann discloses a method of detecting nodes for wireless communications between nodes forming a wireless network, comprising the steps of: recurrently sending from a node forming a part of the wireless network a message for detection by any new node (col. 3, lines 34-45); and monitoring for

detection of said message and for wireless network traffic, responding to detection of said message by sending a reply, responding to wireless network traffic by waiting for a pause in the wireless network traffic and sending a message during the pause to indicate the presence of the new node, and otherwise recurrently sending a message for detection by any other node (col. 3, lines 25-67-col. 4, lines 1-2, the inviting node may determine the interfering nodes [i.e., "absence of detection"], as a result, sending the information to the non-interfering nodes for detection and acquisition of a parent or new node).

Regarding claims 8-9, Tiedemann discloses comprising a plurality of frequency channels, and the step of, in a new node, monitoring for detection of said message and/or for wireless network traffic comprises successively monitoring for each of a plurality of the frequency channels (col. 3, lines 25-67-col. 4, lines 1-2, different frequencies are provided, i.e., uplink and downlink frequencies).

Regarding claim 14, Tiedemann discloses the wireless communications comprise a plurality of frequency channels, the method further comprising the step of, in each node which communicates with another node of the wireless network using a given frequency, compiling a list of preferred frequencies for potential use for said wireless communications in the event of failure of said wireless communications using the given frequency (col. 3, lines 25-67-col. 4, lines 1-2).

Regarding claim 15, Tiedemann discloses a node which communicates with another node using a given frequency, detecting failure of said wireless communications using the given frequency, sending an indication of a preferred frequency from its list via

other communications paths of the wireless network, and sending to said another node a message to use the preferred frequency for restoring the failed communications (col. 3, lines 25-67-col. 4, lines 1-2).

Regarding claim 16, Tiedemann discloses a node for a wireless access network, the node comprising an access radio system for bidirectional wireless communications with wireless terminals (col. 3, lines 25-67-col. 4, lines 1-2), a transit radio system for bidirectional wireless communications with at least one other node of the network, and a communications control unit for coupling signals to be communicated between the access radio system and the transit radio system, the control unit being arranged for operation of the node (col. 3, lines 25-67-col. 4, lines 1-2).

Regarding claim 21, Tiedemann discloses detecting nodes for wireless communications between nodes forming a wireless network, comprising the steps of: recurrently sending from a node forming a part of the wireless network a message for detection by any new node col. 3, lines 34-45; and in a new node, monitoring for detection of said message or for wireless traffic network responding to said detection, and in the absence of said detection recurrently sending a message for detection by any other node col. 3, lines 25-67-col. 4, lines 1-2; wherein the wireless communications comprise a plurality of frequency channels, the method further comprising the step of, in each node which communicates with another node of the wireless network using a given frequency, compiling a list of preferred frequencies for potential use for said wireless communications in the event of failure of said wireless communications using

the given frequency (col. 3, lines 25-67-col. 4, lines 1-2; col. 24-67-col. 6, lines 1-10, 22-37).

Regarding claim 22, Tiedemann discloses comprising the steps of, in a node which communicates with another node using the given frequency, detecting failure of said wireless communications using the given frequency, sending an indication of a preferred frequency from the list via other communications paths of the wireless network, and sending to said another node a message to use the preferred Frequency for restoring the failed communications (col. 3, lines 25-67-col. 4, lines 1-2; col. 24-67-col. 6, lines 1-10, 22-37).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 2-7, 10-13, 17-20, are rejected under 35 U.S.C. 103(a) as being unpatentable over [redacted] Tiedemann (5,999,816) in view of Charas (6381462).

Regarding claims 2, 3, Tiedemann discloses the limitations as applied to claim1 above. However, Tiedemann fails to specifically disclose the nodes comprise multiple beam directional antennas, and the step of recurrently sending from a node forming a part of the wireless network a message for detection by any new node comprises

recurrently sending said message on antenna beams not carrying wireless network traffic.

Nonetheless, Charas discloses a radio system that uses improved dynamic channel selection scheme whereby the fixed subscriber units (i.e., "nodes") employ directional antennas (col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the system, as taught by Tiedemann, with the employment of antenna diversity in order to direct the node to transmit to a hub using a most advantageous single antenna beam and to provide a stable link as well.

Regarding claim 4, Tiedemann discloses the limitations as applied to claim 1 above.

Tiedemann fails to specifically disclose, the nodes comprise multiple beam directional antennas, and the step of, in a new node, monitoring for detection of said message and for wireless network traffic comprises successively monitoring using each of a plurality of antenna beams.

Nonetheless, Charas discloses a radio system that uses improved dynamic channel selection scheme whereby the fixed subscriber units (i.e., "nodes") employ directional antennas, and wherein the signals are sent to other nodes via directional beams when detecting another radio base (col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the system, as taught by Tiedemann,

with the employment of antenna diversity in order to direct the node to transmit to a hub using a most advantageous single antenna beam and to provide a stable link as well.

Regarding claim 5, the combination of Tiedemann and Charas discloses successively monitoring using each of a plurality of antenna beams uses a subset of overlapping antenna beams of the node (Charas, col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Regarding claim 6, the combination of Tiedemann and Charas discloses nodes comprise main and diversity receive paths, and the step of successively monitoring using each of a plurality of antenna beams comprises monitoring using the main and diversity receive paths simultaneously for antenna beams having different directions (Charas, col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Regarding claim 7, the combination of Tiedemann and Charas discloses the nodes comprise main and diversity receive paths, and the step of successively monitoring using each of a plurality of antenna beams comprises monitoring using the main and diversity receive paths simultaneously for antenna beams having different directions (Charas, col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Regarding claim 10, Tiedemann discloses the limitations as applied to claim 1 above.

Tiedemann fails to specifically disclose that the nodes comprise multiple beam directional antennas, and the step of recurrently sending a message for detection by any other node from a new node in the absence of said detection further comprises recurrently sending said message on each of a plurality of antenna beams.

Nonetheless, Charas discloses a radio system that uses improved dynamic channel selection scheme whereby the fixed subscriber units (i.e., "nodes") employ directional antennas, and wherein the signals (different frequencies for each of the group of beams) are sent to other nodes via directional beams when detecting another radio base (col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the system, as taught by Tiedemann, with the employment of antenna diversity, for production of different separated frequencies or channels, in order to direct the node to transmit to a hub using a most advantageous single antenna beam and to provide a stable link as well.

Regarding claim 11, the combination of Tiedemann and Charas discloses, in a new node, monitoring for detection of said message and/or for wireless network traffic comprises successively monitoring using each of a plurality of antenna beams (Charas, col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Regarding claim 12, the combination of Tiedemann and Charas discloses, successively monitoring using each of a plurality of antenna beams uses a subset of overlapping antenna beams of the node (Charas, col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Regarding claim 13, the combination of Tiedemann and Charas discloses the nodes comprise main and diversity receive paths, and the step of successively monitoring using each of a plurality of antenna beams comprises monitoring using the

main and diversity receive paths simultaneously for antenna beams having different directions (Charas, col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Regarding claim 17, Tiedemann discloses the limitations as applied to claim 16 above. However, Tiedemann fails to specifically disclose the transit radio system comprises a multiple beam directional antenna.

Nonetheless, Charas discloses a radio system that uses improved dynamic channel selection scheme whereby the radio base stations (i.e., "transit radio stations") employ directional antennas (col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the system, as taught by Tiedemann, with the employment of antenna diversity in order to direct the node to transmit to a hub using a most advantageous single antenna beam and to provide a stable link as well.

Regarding claim 18, the combination of Tiedemann and Charas discloses wherein the transit radio system and its antenna comprise main and diversity receive paths (Charas, col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Regarding claim 19, the combination of Tiedemann and Charas discloses comprising a plurality of nodes (Charas, col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Regarding claim 20, the combination of Tiedemann and Charas discloses a connection of one of the nodes to a communications network (Charas, col. 3, lines 1-12; col. 6, lines 12-29; col. 5, lines 43-50).

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio R. Perez whose telephone number is (571) 272-7846. The examiner can normally be reached on 10:30 - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on (571) 272- 4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Julio R Perez
Examiner
Art Unit 2617

5/29/06

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER